

### **Amendments to the Claims**

The following listing of claims will replace all prior versions of claim listings in this application.

### **Listing of Claims**

Claim 1 (currently amended): A method for identifying at least one agent which modulates a preselected biological condition controlled by the circadian clock in a subject comprising:

- a) opening the subject's skull dorsal to the subject's confluence of the sinuses and using a hook to lift nonpineal tissues away from the pineal gland;
- b) inserting a monitoring device into, or in close proximity to the pineal, causing little or no tissue damage to the non-pineal tissue during the inserting;
- b) c) monitoring the chemical output of the pineal and monitoring a preselected biological condition of a first subject; and,
- e) d) monitoring the chemical output of the pineal and monitoring the same preselected biological condition as in step b) in a second subject after contacting the second subject with the at least one agent;

wherein an alteration in the chemical output of the pineal and in the preselected biological condition in the second subject as compared to the chemical output of the pineal and preselected biological condition in the first subject identifies at least one agent which modulates a preselected biological condition controlled by the circadian clock.

Claim 2 (original): The method of claim 1, wherein the monitoring of the chemical output is selected from the group consisting of *in vivo* microdialysis and *ex vivo* monitoring.

Claim 3 (original): The method of claim 2, wherein the monitoring the chemical output comprises monitoring output of melatonin or serotonin (5-HT) or both.

Claim 4 (original): The method of claim 1, wherein the preselected biological condition is subject behavior.

Claim 5 (original): The method of claim 4, wherein the subject behavior is selected from the group consisting of symptoms of adaptation to new time zones, symptoms resulting from jet lag, symptoms of frequent shift work sleep abnormalities and symptoms of seasonal affective illnesses.

Claim 6 (original): The method of claim 5, wherein the symptom is selected from the group consisting of a change in hormone secretion, a change in melatonin output, a change in sleep patterns, a change in activity patterns, a change in cortisol secretion and a change in core body temperature.

Claim 7 (original): The method of claim 1, wherein the preselected biological condition is cellular expression of at least one biological molecule of interest.

Claim 8 (currently amended): The method of claim 1, wherein the preselected biological condition is the physiological state of a tissue physiology.

Claim 9 (original): The method of claim 1, wherein the monitoring is continuous, periodic, short term, long term, or any combination thereof.

Claim 10 (original): The method of claim 1, wherein the monitoring is of a length of time sufficient to monitor one or more circadian rhythms of the subject.

Claim 11 (original): The method of claim 1, wherein the first subject and the second subject are the same individual.

Claims 12-14 (canceled)

Claim 15 (currently amended): An improved method of carrying out surgery on the

pineal comprising opening the skull of a subject and inserting a monitoring device, the improvement comprising a circular dental disk drill to open the skull, and a hook to lift ~~and/or~~ ~~separate~~ nonpineal tissues away from the pineal to allow visual placement of the monitoring device into, or in close proximity to, the pineal, causing little or no tissue damage to the non-pineal tissue during the inserting.

Claim 16 (original): The method of claim 15, wherein the monitoring device is a microdialysis probe.

Claim 17 (currently amended): A method for implantation of a microdialysis probe for monitoring of chemicals produced by the pineal, comprising opening the skull dorsal to the confluence of sinuses and pressing the dorsal cerebellum downward and separating nonpineal tissue away from the pineal so as to visually expose the pineal, implanting a microdialysis probe into, or in close proximity to, the pineal, causing little or no tissue damage to the non-pineal tissue during the implanting.

Claim 18 (currently amended): A method for monitoring the presence of at least one chemical in the chemical output of the pineal comprising

- a) opening the skull at a point dorsal to the confluence of sinuses and visually exposing the pineal by pressing the dorsal cerebellum downward;
- b) inserting a microdialysis probe into, or in close proximity to, the pineal, wherein non-pineal tissue exhibits little or no damage from the inserting;
- c) contacting the pineal or the subject with at least one chemical; and,
- d) monitoring the chemical output of the pineal for presence of the same or different chemical by *in vivo* microdialysis.

Claim 19 (original): The method of claim 18, wherein the monitoring is long term, short term, continuous or periodic or any combination thereof.

Claims 20-23 (canceled)

Claim 24 (new): The method of claim 1, wherein the subject's pineal gland is exposed by pressing the dorsal cerebellum downward.

Claim 25 (new): The method of claim 15, wherein the subject's skull is opened dorsal to the subject's confluence of sinuses.

Claim 26 (new): The method of claim 15, wherein the nonpineal tissues lifted by the hook are located below the subject's confluence of sinuses.